

The role and performance of carpet in achieving normal privacy in open plan offices.

Carpet serves to absorb airborne sound, reduce surface noise generation (so called ‘footfall noises’) and helps to block sound transmission to rooms below. Research by the Carpet and Rug Institute, (CRI)¹ indicates that the acoustical properties of a flooring system are strongly influenced by the addition of cushion in the commercial workplace. Their report concludes, “Foam-backed loop pile construction resulted in an increased NRC value compared to conventional secondary backed carpet.”

In addition a report by the American Society of Interior Designers, (ASID)² concludes, “Commercial carpet manufactured with an integrated cushion allows for the greater use of cushion in the office environment, providing both superior acoustical and ergonomic properties...

“Modular carpet with an integrated polyurethane cushion is especially effective in masking the “hollow” sound from foot traffic often associated with the use of raised flooring. This will become an increasingly important factor as the demand increases for improved wire management systems necessitating the use of access flooring.”

The **Noise Reduction Coefficient** (NRC) is a measure of the effectiveness of a material in absorbing sound over several frequencies. ***The higher the NRC, the greater the ability of the floorcovering to absorb airborne noise.*** Results using Test Method ASTM C 423-90A are detailed in chart 1 below. (Bare concrete is rated at 0.015NRC.)

The **Impact Insulation Class** (IIC) is a rating of the insulation from impact noise. ***The greater the IIC value, the lower the impact sound transmission through the floor-ceiling assembly.*** Results using Test Method ASTM-E492-90; E989-89 are detailed in chart 2 below. (Bare concrete is rated at 34IIC.)

1. “*Acoustical characteristics of carpet*”, The Carpet and Rug Institute, (CRI) Technical Bulletin CRI-02/00. A full copy of the report is available on request.
2. “*Increasing Office Productivity Through Integrated Acoustic Planning and Noise Reduction Strategies*”, American Society of Interior Designers, (ASID). A full copy of the report is available on request.

Chart 1 – Carpet Acoustical Properties - Sound Absorption, NRC.

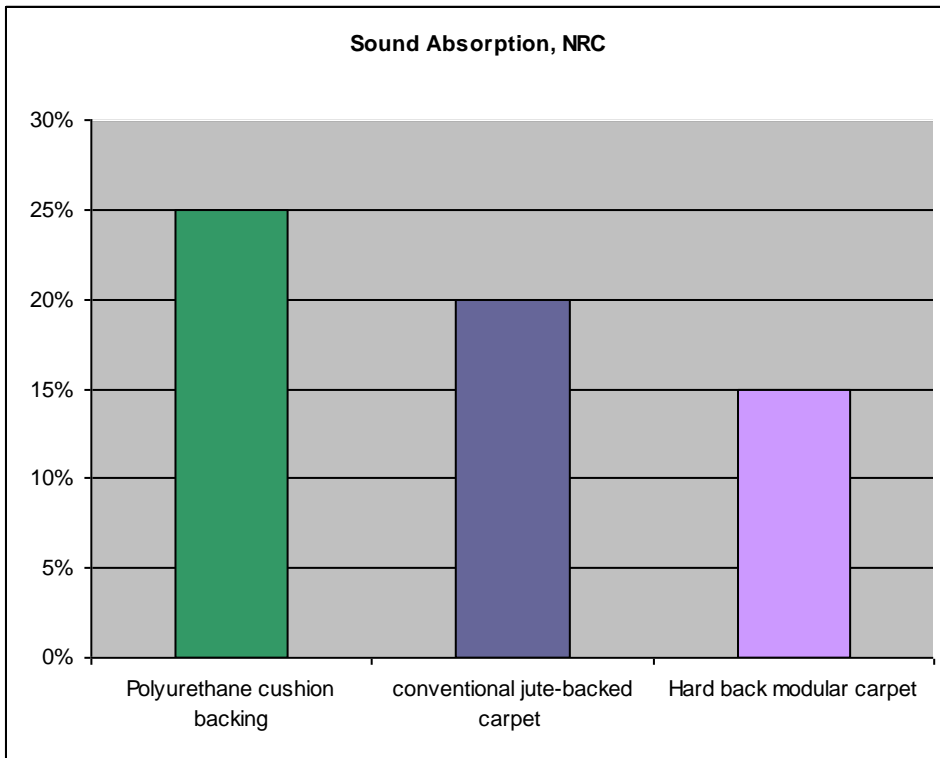


Chart 2 – Carpet Acoustical Properties – Impact Sound Transmission, IIC.

